

Intertek

TEST REPORT

Report Number: 140515021GZU-001

Issued Date: July 7, 2014

Applicant : INTELLITEC INTERNATIONAL INC.
Address : Unit 201 Yuekai Commercial Building, NO28, Dongyuan Road, Changping Town, Dongguan
Manufacturer : INTELLITEC INTERNATIONAL INC.
Address : Unit 201 Yuekai Commercial Building, NO28, Dongyuan Road, Changping Town, Dongguan

Specimen Description

Product : BELL + HOWELL Ultrasonic Pest Repeller
Style Number : 50167
Sample Received Date : Provided by applicant on May 16, 2014
Quantity of Sample : 2 pieces.

Test Content

Date Test Conducted : From May 16, 2014 to May 27, 2014
Test Requested : Witness for performance testing – Rats and Mice
Test Standard/Method : According to client's requirements.
Test Location : Dongguan, Guangdong, China

Test Results : See the following pages for details.

Remark: When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Prepared by:

Reviewed by:

Leo Lin

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Engineer

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Supervisor

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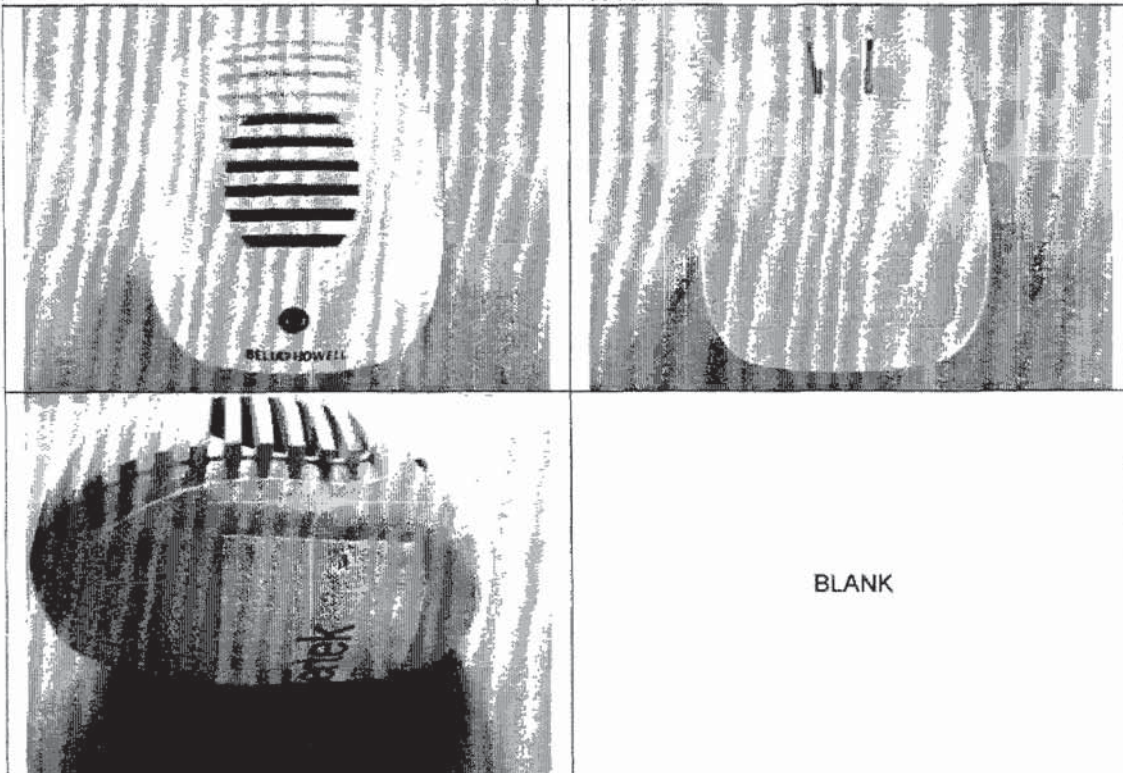
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SAMPLE INFORMATION

Two BELL + HOWELL Ultrasonic Pest Repeller were received in good condition and could work normally.

Sample outlook



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TEST OBJECT

Test Ultrasonic Pest Repeller against rats and mice in laboratory environment, conducting observations in total 11 days period, including 2 days Preliminary test, 7 days During test and 2 days Post test. This is to measure the efficacy of high-frequency sound as a pest management tool.

Both frequency and sound pressure (db) are important parameters.

TEST CONDITION

The test samples were stored in a locked cabinet at ambient temperature and humidity until use in testing.

And during testing test chambers were stored at ambient temperature and humidity.

TEST PROCEDURE

1. Prepare test Chamber, rats/mice and food/water

Test chambers of rat consisted of two plastic chambers, chamber A (with ultrasonic pest repeller) and Chamber B (no ultrasonic pest repeller), each chamber is 4 feet (L) x 4 feet (W) x 2 feet (H). There is an 8.5 feet long plastic tunnel to connect these two chambers. Test chambers of mice are same except for the height of chamber is 1.5 feet. See appendix III for reference.

Test chambers were sealed by Intertek sealed label. After daily check, replace with new sealed label.

Prepared 10 rats and 10 mice. All of them were adult and healthy. As rats are larger and far more aggressive than mice, they can, and often do, kill mice. Therefore the testing of rats and mice was conducted separately.

Placed an equal amount of food and water in chamber A and chamber B. Used the mixture of rice, corn flour and soybean particle as food for rats and mice and used tap water. During the test, 500g food and 400g water for rats, 100g food and 100g water for mice were prepared in each chamber daily.

2. Preliminary Testing

Rats and mice's activity was documented before and after device installation. To observe general activity, conducted a Preliminary Testing before the actual test to ensure the test apparatus and the selected food functioned properly. The Ultrasonic Pest Repeller was turned OFF during preliminary testing. The release of rats and mice in Chamber A and Chamber B was proportionate, with 50% of rats and mice distributed evenly in each chamber. Rats and mice were given 2 days (48 hours) to move freely around chamber A, Chamber B and the tunnel prior to the introduction of the Ultrasonic Pest Repeller.

The fecal pellet counts & Urine spots were cleaned daily (24 hours).

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TEST PROCEDURE (continued)

3. Observation of Repellency (During Testing)

Turn On Ultrasonic Pest Repeller. Rats and mice were recorded at 24 hour intervals for 7 days (or 168 hours). Any rats and mice that stay in the Chamber B (without ultrasonic pest repeller) were counted as repelled. Any rats and mice stay in Chamber A (with ultrasonic pest repeller) were counted as not repelled. Rats and mice were given 7 days (168 hours) to move freely around Chamber A and Chamber B and the tunnel when the Ultrasonic Pest Repeller is ON.

The fecal pellet counts & Urine spots were cleaned daily (24 hours).

4. Post Testing

To observe general activity, a post testing was conducted to ensure the test apparatus and the selected food functioned properly. Ultrasonic Pest Repeller was turned OFF during post testing. Rats and mice were given 2 days (48 hours) to move freely around chamber A, Chamber B and the tunnel.

The fecal pellet counts & Urine spots were cleaned daily (24 hours).

5. Testing record

During total of 11 days (264 hours) testing period, record below items at a 24hours interval.

1. The quantity of rats/mice in each chamber. No change was made in the rats/mice population.
2. The consumption of food and water in each chamber.
3. The fecal pellet counts & Urine spots in each chamber.

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TEST RESULT

RATS		PRELIMINARY TESTING		DURING TESTING										POST TESTING	
		SWITCH OFF		SWITCH ON										SWITCH OFF	
		-48Hrs (-2 Day)	-24Hrs (-1 Day)	24Hrs (1 Day)	48Hrs (2 Day)	72Hrs (3 Day)	96Hrs (4 Day)	120Hrs (5 Day)	144Hrs (6 Day)	168Hrs (7 Day)	24Hrs (+1 Day)	48Hrs (+2 Day)	72Hrs (+3 Day)	96Hrs (+4 Day)	120Hrs (+5 Day)
Observe Date		17-May-14 10:30AM	18-May-14 10:30AM	19-May-14 10:30AM	20-May-14 10:30AM	21-May-14 10:30AM	22-May-14 10:30AM	23-May-14 10:30AM	24-May-14 10:30AM	25-May-14 10:30AM	26-May-14 10:30AM	27-May-14 10:30AM	28-May-14 10:30AM	29-May-14 10:30AM	30-May-14 10:30AM
Observe Time		10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM
Chamber A (W/Pest Repeller)	Quantity	4	6	4	2	1	0	0	0	0	3	6	3	6	6
	Consumed food(g)	59.0	54.2	42.2	26.2	39.0	24.4	31.8	43.8	41.6	41.0	44.0	41.0	44.0	44.0
	Consumed water(ml)	217.8	161.2	124.0	34.0	46.8	41.0	56.0	71.8	54.6	58.2	54.0	58.2	54.0	54.0
Chamber B	Quantity	6	4	6	8	9	10	10	10	10	7	4	7	4	4
	Consumed food(g)	56.4	61.8	55.2	82.8	88.4	80.2	76.4	83.4	70.0	28.0	24.0	28.0	24.0	24.0
	Consumed water(ml)	225.8	173.8	153.8	181.6	149.6	141.2	127.6	150.6	128.4	17.6	23.6	17.6	23.6	23.6

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Website: www.intertek-etisemko.com GZPERF-BRAND V0 (August 16, 2012)

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TEST RESULT (Continued)

MICE			PRELIMINARY TESTING		DURING TESTING										POST TESTING	
			SWITCH OFF		SWITCH ON										SWITCH OFF	
			-48Hrs (-2 Day)	-24Hrs (-1 Day)	24Hrs (1 Day)	48Hrs (2 Day)	72Hrs (3 Day)	96Hrs (4 Day)	120Hrs (5 Day)	144Hrs (6 Day)	168Hrs (7 Day)	+24Hrs (+1 Day)	+48Hrs (+2 Day)			
Observe Date			17-May-14	18-May-14	19-May-14	20-May-14	21-May-14	22-May-14	23-May-14	24-May-14	25-May-14	26-May-14	27-May-14			
Observe Time			10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM	10:30AM			
Chamber A (W/Pest Repeller)	Quantity		4	5	2	0	1	1	0	0	0	6	4			
	Consumed food(g)		32.8	35.8	22.8	15	15.6	14.2	12.2	11.8	10.6	18.2	14.6			
	Consumed water(ml)		18.2	26.2	11.8	8.4	9.0	5.6	10.8	6.4	15.8	19.4	18.2			
Chamber B	Quantity		6	5	8	10	9	9	10	10	10	4	6			
	Consumed food(g)		15.8	40.0	23.6	22.8	29.6	26.0	22.4	19.8	24.2	19.4	15.2			
	Consumed water(ml)		20.4	32.6	17.4	15.8	12.8	17.2	28.4	29.8	32.6	11.4	13.2			

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TEST RESULT (Continued)

For Rats/Mice fecal pellet & urine spots

STAGE/ SWITCH ON/OFF		DATE	SUBJECT	CHAMBER A (W/ PEST PELLER)	CHAMBER B
PRELIMINARY TESTING	SWITCH OFF	17-May-14	RATS	Equal	Equal
			MICE	Equal	Equal
		18-May-14	RATS	Equal	Equal
			MICE	Equal	Equal
DURING TESTING	SWITCH ON	19-May-14	RATS	Equal	Equal
			MICE	Equal	Equal
		20-May-14	RATS	Little	More
			MICE	Little	More
		21-May-14	RATS	Little	More
			MICE	Little	More
		22-May-14	RATS	Little	More
			MICE	Little	More
		23-May-14	RATS	Little	More
			MICE	Little	More
		24-May-14	RATS	Little	More
			MICE	Little	More
POST TESTING	SWITCH OFF	26-May-14	RATS	Equal	Equal
			MICE	More	Little
		27-May-14	RATS	Equal	Equal
			MICE	Equal	Equal

Note:

Fecal pellet and urine are observed and witnessed by naked eye. Due to tiny and irregular sizes, rats and mice's fecal pellet & urine spots are not easy to count, therefore quantity difference is described by three levels-little, very little and more.

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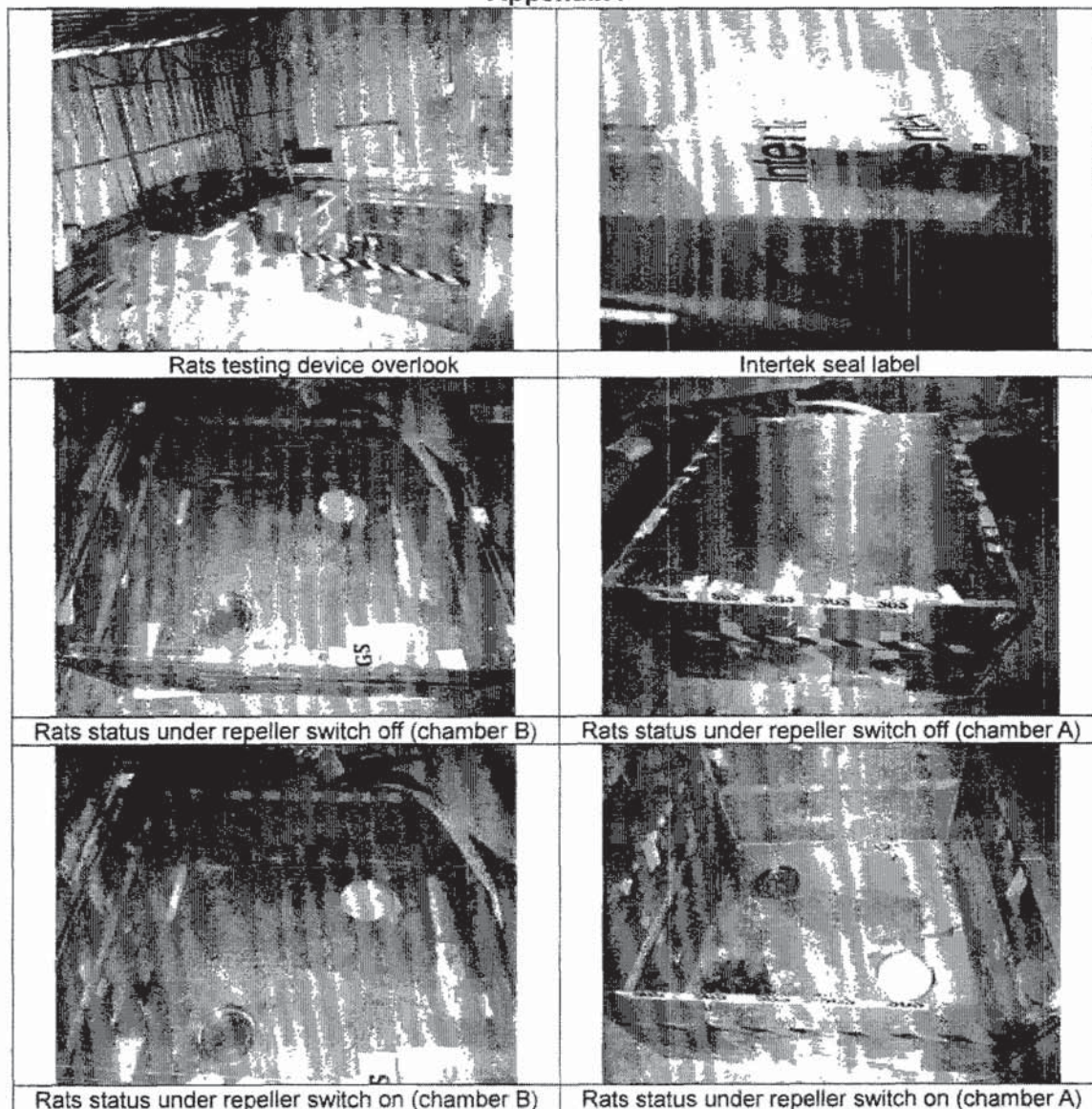
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Appendix I



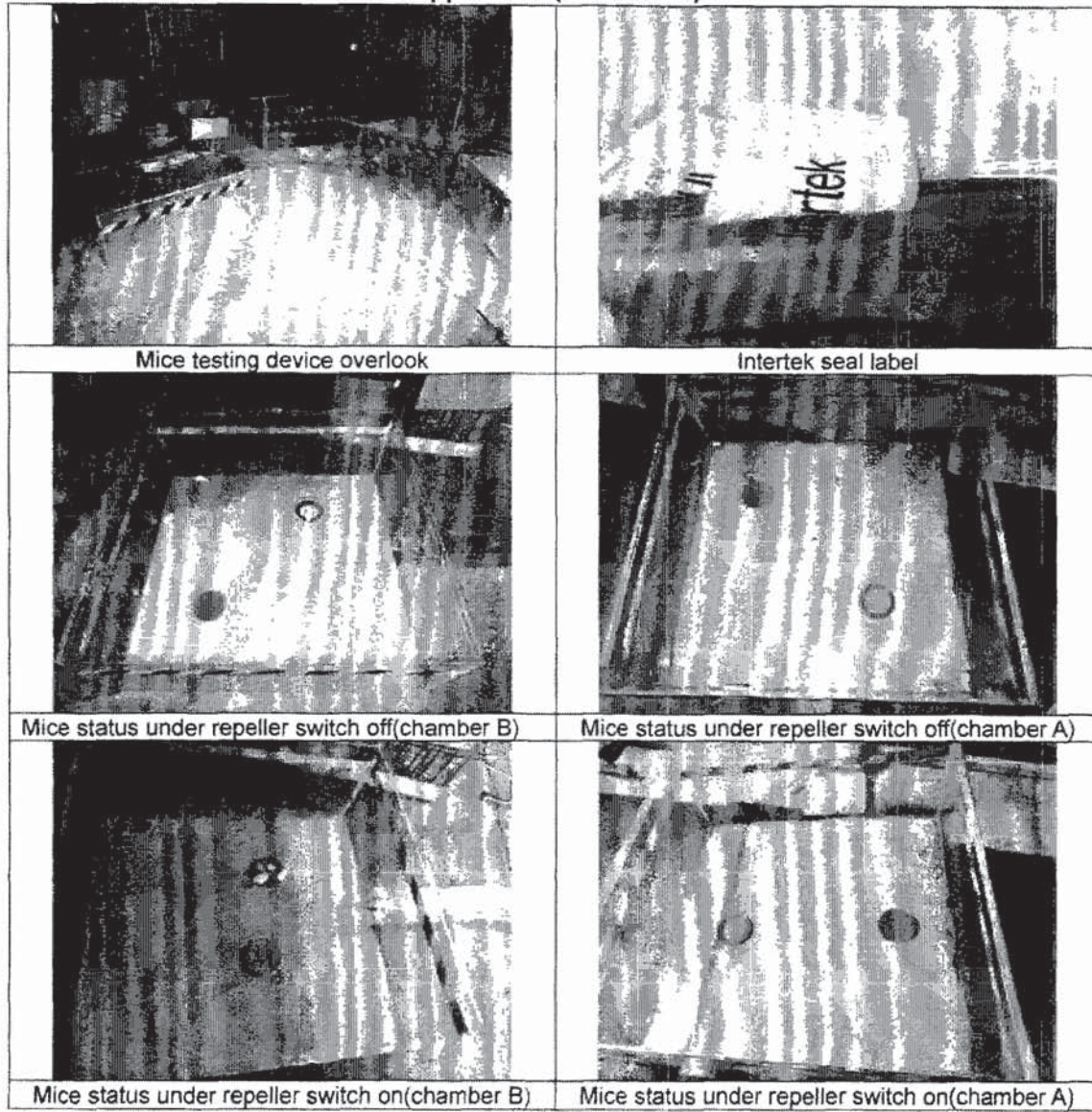
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Appendix I (Continued)



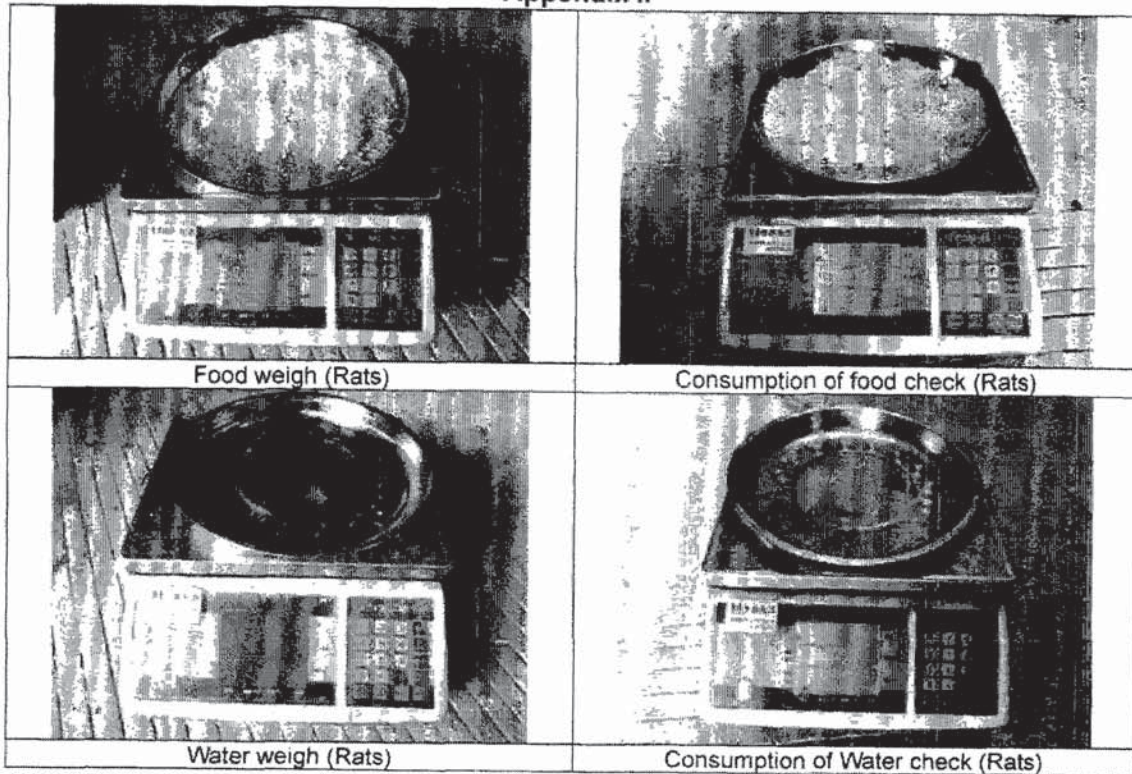
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Appendix II



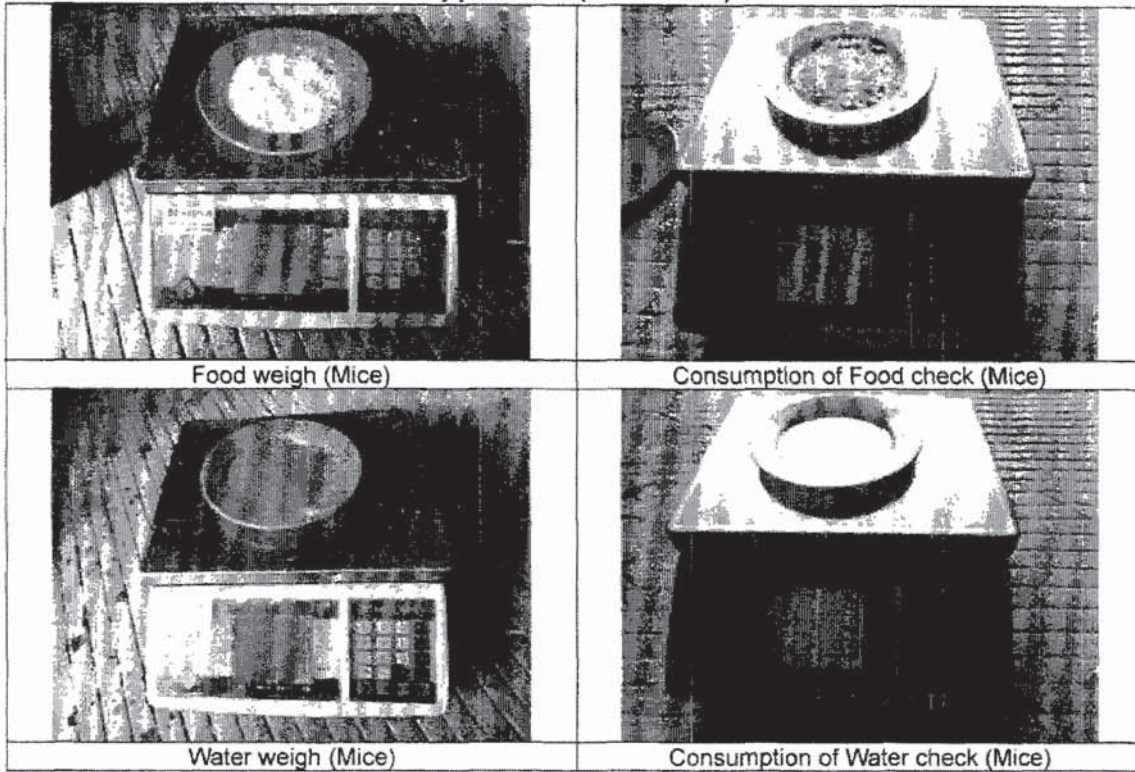
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Appendix II (Continued)



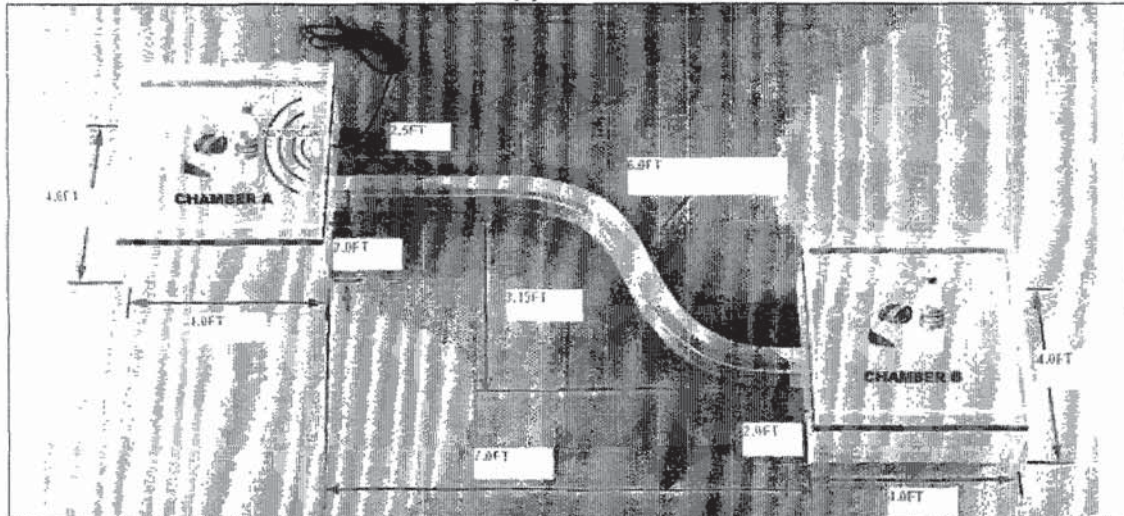
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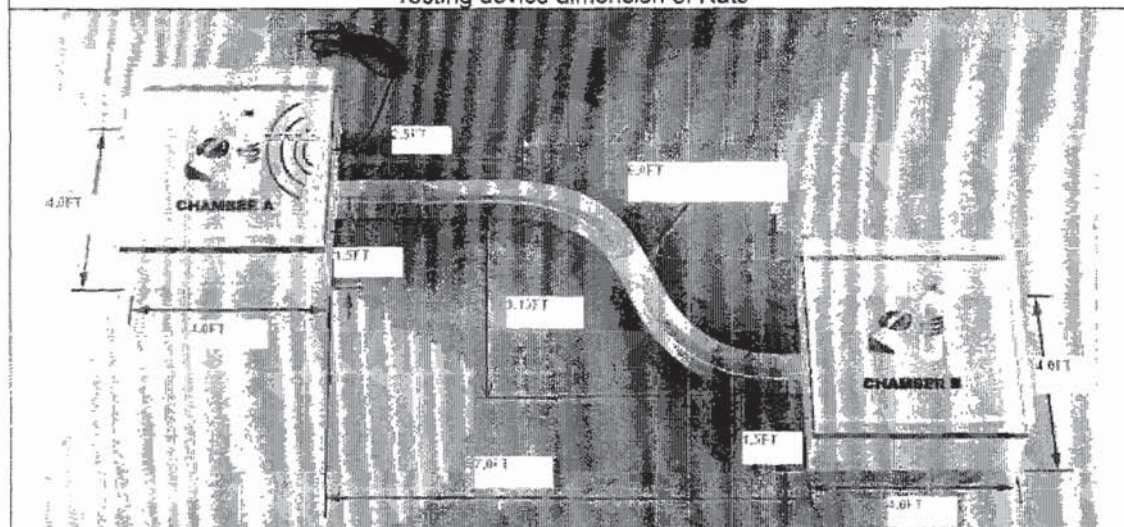
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Appendix III



Testing device dimension of Rats



Testing device dimension of Mice

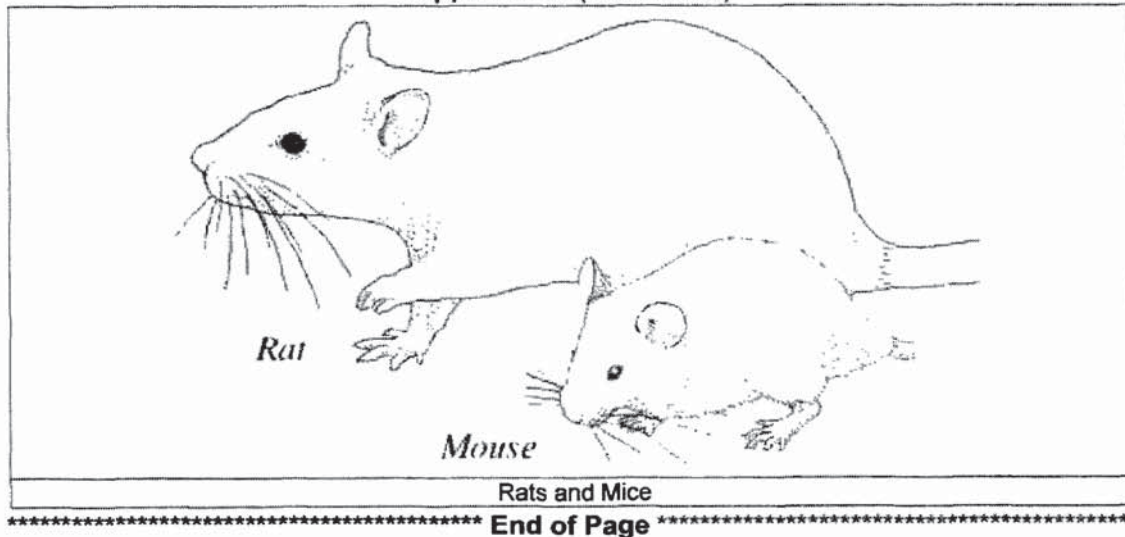
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Appendix III (Continued)





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REVISION SUMMARY

Date	Project Handler Reviewer	Page	Description of Change
2014-7-7			Initial release

*******End of Report*******

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2014 SPIDERS / ANTS / ROACHES TEST REPORT RESULT ANALYSIS

July 7, 2014

Construction of Test Chamber:

- The test was conducted in two plastic chambers. Each chamber was 4' (L) x 4' (W) x 1.5' (H).
- Pest Repeller was placed in chamber A. There was no pest repeller in Chamber B.
- In between, there was a 8.5 feet long plastic tunnel. The tunnel was "curved" and two chambers were designed in Hi-Lo level. The curved and Hi-Lo tunnel design was to further ensure ultrasonic sound wave would not enter from chamber A into chamber B since sound wave was directional.
- All edges were sealed securely with Intertek unbreakable labels. Only Intertek inspector could open the chambers to count ants / spiders / roaches quantities, weighted food and water and replaced new seals on a daily basis.
- Total 10 ants, 10 spiders and 10 roaches were used, and tested separately in different chambers.
- Released 50% of ants / spiders / roaches in chamber A, and another 50% of ants / spiders / roaches in Chamber B at the beginning of the test.
- There were 3 testing stages;
 - Preliminary Testing: 2 days = 48 hours, pest repeller was OFF
 - During Testing: 7 days = 168 hours, pest repeller was ON
 - Post Testing: 2 days = 48 hours, pest repeller was OFF

Test Result Analysis

Spiders (see page 5)

- Preliminary Testing: 30% spiders stayed in Chamber A, 70% spiders stayed in Chamber B.
- During Testing: Day 1 ~ Day 3, 70%~80% spiders stayed away from Chamber A, Day 4 ~ Day 7, 90%~100% spiders stayed away from Chamber A. Pest repeller was switched ON in Chamber A during testing.
- Post Testing: 30% ~ 40% spiders returned to Chamber A after pest repeller was switched off.
- Water and food consumption was much LESS in Chamber A During Testing when pest repeller was switched on. The consumption quantities were closer in two chambers during Preliminary and Post Testing when pest repeller was switched off. To record water and food consumption result on a daily basis helped to understand spiders' eating behavior under the influence of ultrasonic sound.

Roaches – Test Result Analysis (see page 5)

- Preliminary Testing: 60%~70% ants stayed in Chamber A, 40%~30% ants stayed in Chamber B.
- During Testing: Day 1 ~ Day 3, 50 %~100% roaches stayed away from Chamber A, Day 4 ~ Day 7, 100% roaches stayed away from Chamber A. Pest repeller was switched on in Chamber A during testing.
- Post Testing: 30%~40% roaches returned to Chamber A after pest repeller was switched off.
- Water and food consumption was much LESS in Chamber A During Testing when pest repeller was switched on. The consumption quantities were closer in two chambers during Preliminary and Post Testing when pest repeller was switched off. To record water and food consumption result on a daily basis helped to understand roaches' eating behavior under the influence of ultrasonic sound.

Ants – Test Result Analysis (see page 5)

- Preliminary Testing: 40%~60% ants stayed in Chamber A, 60%~40% ants stayed in Chamber B.
- During Testing: Day 1 ~ Day 3, 60%~100% ants stayed away from Chamber A, Day 4 ~ Day 7, 100% ants stayed away from Chamber A. Pest repeller was switched on in Chamber A during testing.
- Post Testing: 60% ~ 70% ants returned to Chamber A after pest repeller was switched off.
- Water and food consumption was much LESS in Chamber A During Testing when pest repeller was switched on. The consumption quantities were closer in two chambers during Preliminary and Post Testing when pest repeller was switched off. To record water and food consumption result on a daily basis helped to understand ant's eating behavior under the influence of ultrasonic sound.

Fecal Pellets Count (see page 12)

- Lab technician traced and recorded pest fecal pellets on a daily basis, this helped to further understand pest's activities and behaviors under the influence of ultrasonic sound.
- Lab technician could only trace fecal pellets from roaches, but no urine spot was observed:
 - When pest repeller was switched on During Testing; fecal pellets appeared to be much LESS quantities in Chamber A.
 - When pest repeller was switched off during Preliminary and Post Testing, fecal pellet quantities appeared to be more EVEN in two chambers.
- There was neither fecal pellet nor urine spot was found from spiders and ants during the entire testing period.